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**FIRE FACT NO. 041 CHECKLIST(s): 99**

**TITLE : FLAMMABLES IN BUILDINGS**

**CHECKLIST ITEM(s) : 99-62**

**REFERENCE(s) :**

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Gasoline, alcohol, mineral spirits, and solvents are common flammable and combustible liquids used by building owners. Improper storage and handling of these materials may result in a fast growing fire or explosion. It is difficult to contain fires involving these liquids because they can run under fire doors or boil and become gaseous clouds and spread throughout the building, only later to be ignited.

Due to the rapid spread of these fires, they can also create very serious exiting problems for the occupants who may have exit pathways and corridors blocked by flame or smoke.

Dense smoke can be spread throughout the building through air induction and air handling equipment. This equipment channels and transports the smoke compromising the entire exiting program for the building inhibiting speedy exiting for the occupants.

**It is recommended that flammable and combustible liquid and any gasoline-operated equipment are stored outside of the occupied building.** Proper storage of these liquids and equipment may be allowed in occupied buildings if the storage meets strict criteria.

Checklist item 99-62 prohibits flammable storage in boiler rooms and any other rooms with fuel fired equipment. This also includes the storage of gasoline operated equipment such as weed eaters, snowblowers, leaf blowers, lawn tractors and mowers, and other equipment and fuel storage commonly found in inappropriate areas. Combustible solvents, cleaners, and chemicals should also be properly stored.

Flammables and combustibles must be stored in a properly separated room, which provides equivalent one-hour fire rated construction, and doors that are kept closed and latched. Liquid storage must be in proper storage containers or safety cans. Quantities are limited to a total of five gallons for operating storage. When exceeding five gallons of storage, these liquids shall be placed in an approved Flammable Storage Cabinet located in a properly separated area.

**See page two for details on Flammable Storage Cabinets.**



## **Kansas State Fire Marshal Prevention Division**

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Requirements for the use and storage of flammable and combustible liquids include the use of appropriate storage techniques. Most facilities with these products can store their usual quantities in a storage cabinet designed for the purpose. Facilities using flammable or combustible liquids may have quantities out of an approved cabinet required to supply daily use needs. Quantities of these products over the amount required for a day's use shall be stored in an appropriate storage cabinet.

The National Fire Protection Association (NFPA) 30, "Flammable and Combustible Liquids Code", is the source of information concerning storage cabinets.

Flammable liquid storage cabinets are available on the commercial market and must be listed and labeled for the use (typically by Underwriter's Laboratories (UL). The most common type is a double-wall metal cabinet, yellow in color, and labeled with red lettering stating "FLAMMABLE - KEEP FIRE AWAY". The cabinets come in various sizes.

An option which may be considered by facilities with wood working resources is to construct a wooden flammable liquid storage cabinet in accordance with guidance in NFPA 30. The construction requirements are below.

- The bottom, sides, and top shall be at least of exterior grade 1 inch plywood.
- All joints shall be rabbetted and shall be fastened in two directions with wood screws.
- If more than one door leaf, there shall be a rabbetted overlap of at least 1 inch.
- Doors shall have a positive latch.
- Hinges shall not lose their holding capacity in a fire (piano type are typically used).
- A sill or pan capable of holding a 2 inch depth of liquid shall be at the cabinet's bottom.
- The cabinet does not need venting of any type.
- The cabinet shall be painted (typically yellow) and labeled in large red letters:

"FLAMMABLE - KEEP FIRE AWAY".